

CLAIMS

1. A punch-card device including a punch, a die adapted to support a machine-processable record card while it is being punched, and a light source mounted below the plane of said card in a position to direct light through the aperture made in said card by said punch.

2. A punch-card device according to claim 1 wherein said light source includes an electric light bulb and a mirror.

3. A punch-card device according to claim 1 wherein said light source includes two electric light bulbs.

4. A punch-card device according to claim 1 wherein said light source includes an electric light bulb, partially surrounded by a reflector.

5. A punch-card device according to claim 1 wherein said light source includes an electric light bulb having an overall length greater than three times its maximum diameter.

6. A punch-card device according to claim 1 wherein said light source is illuminated by the operation of a limit switch closed by the full insertion of said card into said device.

7. A punch-card device according to claim 1 wherein the upper surface of said die is made of a material that is pervious to light.

8. A punch-card device according to claim 1 wherein the upper surface of said die is supported on ribs made of a transparent material.

9. A punch-card device according to claim 1 wherein at least one transparent pane is interposed between said light source and chads punched out of said card.

1 10. A punch-card device according to claim 1 wherein light from said light source
2 is made visible to the user of said device, to indicate to said user that the light source is
3 energized.

4 11. A punch-card device according to claim 1 wherein an open space is provided
5 below said die, said space having at least as great a width and length as said die, and a
6 depth at least as great as the vertical height of said light source.

7 12. A punch-card device according to claim 1 wherein said punch is in the form of
8 a stylus with (a) a handle and (b) a slender probe, preferably of metal and having a
9 diameter smaller than the minimum width of preperforated areas to be punched out of
10 said card, the free end of said probe being slightly rounded to prevent binding during the
11 punching operation.

12 13. A punch-card device according to claim 1 wherein said light source includes
13 one electric light bulb and one mirror spaced apart by more than the width of said die.

14 14. A punch-card device according to claim 1 wherein instructions to the user
15 regarding the proper method for inserting said card and manipulating the punch are
16 visible to said user during the punching operation.

17 15. A punch-card device according to claim 1 wherein said card has a plurality of
18 preperforated areas.

19 16. A punch-card device according to claim 1 wherein said card has a plurality of
20 preperforated areas arranged in a plurality of rows and a plurality of columns.

21 17. A punch-card device according to claim 1 wherein said card has a plurality of
22 preperforated areas arranged in a plurality of rows and a plurality of columns, and said

1 device has a plurality of leaves turnably mounted on co-planar parallel axes spaced apart
2 by multiples of the distance between adjacent columns of said preperforated areas.

3 18. A punch-card device according to claim 1 wherein said card has a plurality of
4 preperforated areas arranged in a plurality of rows and a plurality of columns, and said
5 device has a plurality of leaves turnably mounted on co-planar parallel axes spaced apart
6 by multiples of the distance between adjacent columns of said preperforated areas, said
7 leaves each having an edge adjacent to a different column of said preperforated areas and
8 exhibiting a plurality of legible choices each aligned with a different one of said rows.

9 19. A punch-card device according to claim 1 wherein said card has a plurality of
10 preperforated areas arranged in a plurality of rows and a plurality of columns, and said
11 device has a plurality of leaves turnably mounted on co-planar parallel axes spaced apart
12 by multiples of the distance between adjacent columns of said preperforated areas, said
13 leaves each having an edge adjacent to a different column of said preperforated areas and
14 exhibiting a plurality of legible choices each aligned with a different one of said rows,
15 said device also having (a) an opaque outer template mounted immediately underneath
16 the plane of said axes and having an aperture adjacent to each of said choices, and (b) a
17 transparent inner template immediately underneath said outer template and having an
18 aperture in register with each preperforated area of said card when said card has been
19 inserted into said device sufficiently to bear against a flange fixed to the lower end of said
20 inner template.

21 20. A punch-card device according to claim 1 wherein said card has a plurality of
22 preperforated areas arranged in a plurality of rows and a plurality of columns, and said
23 device has a plurality of leaves turnably mounted on co-planar parallel axes spaced apart

1 by multiples of the distance between adjacent columns of said preperforated areas, said
2 leaves each having an edge adjacent to a different column of said preperforated areas and
3 exhibiting a plurality of legible choices each aligned with a different one of said rows,
4 said device also having (a) an opaque outer template mounted immediately underneath
5 the plane of said axes and having an aperture adjacent to each of said choices, and (b) a
6 transparent inner template immediately underneath said outer template and having an
7 aperture in register with each preperforated area of said card when said card has been
8 inserted into said device sufficiently to bear against a flange fixed to the lower end of said
9 inner template, said card shifting said inner template to a position of register of the
10 apertures in said inner and said outer templates against the urging of a light spring
11 bearing against said flange.

12 21. A punch-card device according to claim 1 wherein the upper surface of said
13 die is made of a resilient material and has slits adapted to permit said punch to detach
14 preperforated areas from said card and force them into the open space beneath said die.

15 22. A punch-card device according to claim 1 wherein said punch is in the form of
16 a stylus with (a) a handle and (b) a slender probe, preferably of metal and have a diameter
17 smaller than the minimum width of preperforated areas to be punched out of said card,
18 the free end of said probe being slightly rounded to prevent binding during the punching
19 operation and having a needle-like projection adapted to spear said preperforated areas of
20 said card.

21 23. A punch-card device according to claim 1 wherein a rectangular open-top box
22 is snapped onto the underside of said device beneath said die, adapted to catch all chads
23 punched out of said card.

1 24. A punch-card device according to claim 1 wherein a small portion of the
2 illumination from said light source is made visible to the user of said device, to signal
3 that said device is ready for voting.